



Shu-Yu (Rain) Lin · 1st

Seeking full-time opportunities | M.S. ECE at UMich | Former Intern at Intel Corporation | Embedded Software / Firmware / Firmware Validation / Design Verification



- University of Michigan

Bellevue, Washington, United States · [Contact info](#)

[Personal Website](#)

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Open to work

Software Engineer, Firmware Engineer, Embedded Software Engineer, Syste...

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Highlights



You both worked at RealM

RealM You both worked at RealM in June 2024

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About

M.S. Electrical and Computer Engineering, University of Michigan 2023/8 - present

B.S. Electrical Engineering, National Taiwan University(NTU) 2018/9 - 2023/1

...

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Top skills

Shell Scripting · Python · Embedded Systems · C (Programming Language) · C++



Services

Custom Software Development · Application Development · Software Testing

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Featured

Document

- Award: Presidential Award, ranking within the top 5% of the class.

Experience

RealM (PyTorch, Docker, AWS EC2, 3D Computer Vision, Swift) Bellevue, WA
Software Engineer Intern June 2024 - Aug 2024

- Researched and developed semantic segmentation, point cloud completion, and surface reconstruction on 3D point cloud model based on PyTorch and Open3D.
- Developed an end-to-end indoor 3D reconstruction application based on NeRF, with an iOS app as the frontend and Node.js as the backend, deployed the service on AWS EC2 using Docker.
- Developed an iOS app for object capture, indoor scene reconstruction, and room plan construction using SwiftUI and RealityKit (xcodeproj).

Intel Corporation (Python, Shell, UNIX, PCIe) Taipei, Taiwan
Hardware Platform Application Engineer Intern July 2022 - June 2023

- Conducted a Highly Efficient Automatic PCIe Validation Tool Kit, within Linux testing environment setup time from 10 minutes to 10 seconds by Shell Script and Python. Provided OS image by Chameleon for testing worldwide. Enabled parsing of error logs of 100,000+ lines within seconds by Python for further analysis. Standard code review and validation flow for the project.

Projects

Live Caption Device - LINK (C, RTOS, Python, BLE, HTTP, DDP) Aug. 2024 - Dec. 2024

- Developed a real-time transcription device using ESP32-S3-Korvo-2, integrating microphone input with an E-Ink display for live text output; audio sent via WiFi to a server running VOSK Offline Speech Recognition API for processing, with custom PCR designs by KICad and manufacturers.

Activity

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 Rohit P. · 3rd+
Resident @ Perplexity AI | CS @ NYU
3d · Edited · 

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What Every Programmer Should Know About Memory

Ulrich Drepper
Red Hat, Inc.
drepper@redhat.com
November 21, 2007

Abstract
As CPU cores become both faster and more numerous, the limiting factor for most programs is now, and will be for some time, memory access. Hardware designers have come up with ever more complex and more bandwidth-hungry memory technologies for CPUs, but these cannot work optimally without some help from the programmer. Unfortunately, neither the structure nor the cost of using the memory subsystem of a computer or the caches on CPUs is well documented. This paper attempts to change that. The paper describes the memory systems in use on modern commodity hardware, illustrating why CPU caches were developed, how they work, and what programs should do to achieve optimal performance by utilizing them.

62 · 1 repost






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researcher @godotengine
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What operating system do you use?

Sounds like a weird question, but I'm curious.

3,766 · 85 comments



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Experience

 **Software Engineer Intern**
RealM · Internship
Jun 2024 - Aug 2024 · 3 mos
Bellevue, Washington, United States

- Researched and developed semantic segmentation, point cloud completion, and surface reconstruction on 3D point cloud model based on PyTorch and Open3D.
- Developed an end-to-end indoor 3D reconstruction application based on NeRF, with an iOS app as the frontend and Node.js as the backend; deployed the service on AWS EC2 using Docker.

<https://www.linkedin.com/in/shu-yu-lin-ntuee/>

2/7

- Developed an iOS app for object capture, indoor scene reconstruction, and room plan construction using SwiftUI and RealityKit framework.

▽ Node.js, AWS EC2 and +7 skills



Embedded Software Engineer Intern

MIH | Mobility in Harmony · Internship
Sep 2022 - Jan 2023 · 5 mos

- Researched Scheduling and Task Management of RTA-OS3.1 for Automotive electrical and electronic architecture (EEA) development ...see more

▽ NXP, Embedded Systems and +5 skills



Undergraduate Researcher

National Taiwan University
Sep 2021 - Jan 2023 · 1 yr 5 mos
Media IC & System Lab

- Studied Federated Learning and ReID techniques. Conducted experiments based on Selective Knowledge Aggregation and development...

▽ Computer Vision, PyTorch and +2 skills



Federated Re-ID

Project Website



Data Center HW Platform Application Engineer Intern

Intel Corporation · Internship
Jul 2021 - Jun 2022 · 1 yr

- Contributor of Highly Efficient Automatic PCIe Validation Tool Kit, reduced Linux testing environment setup time from 5 minutes ...see more

▽ Git, Unix and +11 skills



Undergraduate Researcher

National Taiwan University
Sep 2020 - Feb 2021 · 6 mos
MicroSystem Research Laboratory (MSRL)

- Studied Quantization of Convolutional Neural Network in PyTorch.
- Designed pipelined multi-input format Convolution Multiply Accumulation...

▽ C++, PyTorch and +2 skills

Show all 6 experiences →

Education



University of Michigan

Master of Science, Electrical and Computer Engineering
Aug 2023 - Apr 2025

Coursework:

- EECS473 Advanced Embedded Systems ...

▽ Real-Time Operating Systems (RTOS), Embedded Software and +10 skills



National Taiwan University

Bachelor of Science, Electrical Engineering
Sep 2018 - Jan 2023

Presidential Award in 2018 Fall

...

▽ STM32, C (Programming Language) and +4 skills

Licenses & certifications



TOEFL 105/120

ETS

Issued Sep 2022 · Expired Sep 2024

Skills

Build Automation



Data Center HW Platform Application Engineer Intern at Intel Corporation

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Chip Architecture

Computer Architecture

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Courses

Advanced Embedded Systems

EECS 473



Associated with University of Michigan

Algorithms

EE4033



Associated with National Taiwan University

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Honors & awards

Presidential Award

Issued by National Taiwan university · Apr 2019



Associated with National Taiwan University

This award is given each semester to students ranking within the top 5% of their class

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Hua-Ta Liang · 2nd

UIUC MEng Student in Autonomy & Robotics | Actively Seeking 2025 Internship or Full-Time Roles as a Robotics/AI/Software Engineer or...

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Pin-Lun (Byron) Hsu  · 3rd

Member of Technical Staff @xAI

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Tsen-Yen Hsiao · 2nd

MS ECE at University of Michigan | Actively Seeking 2025 Full-time RTL Design

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Shawn Moore · 2nd
Sales Professional

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From Shu-Yu's school



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